

those of *Emberiza citrinella* and *Phragamaticola aëdon*. Judging from the eggs described below, these appear to be apt comparisons.

On 24th December 1929 F. Shaw Mayer obtained two nests of *Lyco-corax*, each containing one egg, at Patani, on Halmahera. The eggs are now in the British Museum collection. The first nest, according to field notes accompanying the egg, was large and basin-shaped, built of roots and moss, and lined with soft woodchips. It was placed about 23ft. above the ground; the nest site is not mentioned, though presumably it was in a tree. The nest was noted as being saturated with rains. The single fresh egg (B.M. No. 1941. 1.2.98) tallies with Schoenwetter's description; it is of a pinkish-stone ground colour, marked all over in an irregular pattern with sparsely distributed lines of violet-brown and hairstreaks of pale lilac, and measures 37 x 26.35 mm. Faint orange stains may be attributed to the wet woodchips.

The second nest was merely recorded as similar to the first; that the egg it contained was at a later stage of incubation than the first seems to confirm that the species lays only one egg per clutch. The egg (B.M. No. 1941. 1.2.99) is identical in colour and markings to the first, but slightly smaller, measuring 35.2 x 25 mm. It also bears faint orange wood stains. Both eggs are slightly glossy.

There appears to be no record in literature of the nesting of *Dicrurus hottentottus atrocaeruleus* Gray, the race of the Spangled Drongo inhabiting Halmahera and Batjan in the Moluccas. On 11th December 1929, Shaw Mayer collected a nest with two eggs of this subspecies at Patani; one egg is now in the B.M. collection (B.M. No. 1941. 1.5.36). The nest is described in Shaw Mayer's field notes as shallow and cup-like, built of intertwined rootlets and twigs, and lacking a lining. It was approximately 67 ft. above the ground, not an uncommon height for drongo nests. The egg, which measures 29.5 x 21.55 mm., is reminiscent of the eggs of *Tchagra senegala* in colour and pattern; it is distinctly glossy, with a white ground upon which are distributed hairlines, blotches and suffusions of secondary pale greys and lilacs, most in evidence at the larger end, with darker blotches and spots of liver-brown and sepia capping the larger end.

References:

- Bernstein, H. A. (1864). Ueber einen neuen Paradiesvögel und einige andere neue Vogel. *Journ. f. Orn.* 72: 401-410.
Schoenwetter, M. (1944). Die eier der Paradiesvögel. *Beitrage Fortpfl. Biol. Vogel.* 20: 1-18.

Further notes on the African Finfoot, *Podica senegalensis* (Vieillot)

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In amplification of Pitman's notes (*Bull. B.O.C.* 82; 9) the results of some eleven years' investigation of the finfoot may be of interest.

Though not easy to study, it is far from being as uncommon as is usually represented. Indeed, in my own experience, it is very widely

distributed for I have met with it on every suitable stream in which I have sought it from Southern Rhodesia to Kenya, not, it is true, in any great numbers but more frequent than its stealthy and skulking nature would lead the casual observer to suppose.

The finfoot is by no means extremely shy and is peculiarly slow in detecting a motionless object and will swim past within a few feet of a motionless, even if only moderately well concealed observer. If the bird then springs lightly with wings closed to a tree trunk three feet above the water and stands to preen its streaked and mottled plumage set off by its brilliant orange legs, feet and bill, it presents a striking spectacle.

Though recorded from dams and lakes I have never observed it on either. Its normal and favourite habitat is that of more or less fast running streams from quite small ones to the great rivers such as the Zambesi. It is best observed by selecting a spot (not easily found on overgrown forested African rivers) with as much field of view as possible and simply sitting still. Finfoots hug the immediate vicinity of the river bank and on small streams the first intimation of the bird's presence that is apt to catch the eye is the movement of the white streak on head and neck in the shadow under the opposite bank caused by the exaggerated forward and backward movement of the head with each swimming stroke of its feet. This tell-tale mark and the spots on its back, though conspicuous in shadow and still water, become perfect camouflage as it enters rough or foam flecked water. Should it cross a large river it does so at speed and with obvious distaste of exposure in wide open spaces far from cover.

First impressions are of an apparently perfectly streamlined aquatic diving bird, yet it can hardly be induced to dive except by close chase in a power boat; a strong flyer that is rarely persuaded to take wing and prefers to escape when alarmed by flapping along the surface after the manner of a Steamer Duck (*Tachyeres*); that climbs into low trees in a manner reminiscent of a large lizard aided by its extremely stout and sharp claws and stiff tail feathers, and that is as likely as not to so diverge from the habit of aquatic diving birds as to seek refuge by leaving the water and running up into the bush as fast as any pheasant. This activity on land is one of the bird's most unexpected characteristics. A finfoot surprised on a wide open mudbank displays an unexpected fleetness of foot, the impression of agility only marred by the occasional lifting of one or both wings for a fraction of a second as it runs. It seems to take wing more readily from land or rock than from the water but once airborne the flight is rapid and strong, not unlike that of a merganser. If suddenly startled when perched in a bush it flops to the ground, seemingly without opening its wings, and scuttles off in the undergrowth.

These observations dispel any lingering doubts about the finfoot's relationship to such birds as darters (*Anhinga*) or grebes, for its general morphology and lobed feet more nearly resemble those of a coot (*Fulica*) than a grebe and the circumstantial evidence of its Mallophaga which, on the authority of Theresa Clay (*in litt.*) belong to the rail infesting genera *Pseudomanopon* and *Fulicoffula*, seem to suggest a ralline affinity. In my experience the bird's method of feeding is entirely off or above the surface or within reach of its bill below it, frequently picking insects off

overhanging bank vegetation and jumping up to reach them. It probably gets a good deal of its food ashore, for in conditions of low water, mud-banks are covered with its very distinctive tracks. Five stomachs examined contained a very wide assortment of fragments of insects and their larvae, spiders, beetles, crustaceans, numerous opercula of snails and a few fragments of small vertebrates, and once the whole large egg case of a praying mantis. I have never seen the bird dive when feeding or otherwise than when wounded or chased.

It swims with tail flat on the water, the distal half awash and in the rare circumstances when there is no cover at hand will adopt as an alternative method of escape that of "freezing" motionless alongside a rock with nothing but the top of its back showing above water. It will then trust to this device until approached within a yard or two. Though I have never observed it to do this in open water the following note (27.12.52) from Sir John Kennedy shows that it will on occasion do this as if shamming death:— "The river was very low and only some eight yards wide at that point and coming to the top of the bank about five yards away we saw what appeared to be the back of a dead bird floating in the water quite motionless only the back showing, wings closed. After we had watched it for perhaps five or six seconds the bird came to life and scuttered off along the surface into a small reedbank. It was a Finfoot. We beat the patch of reeds but never saw it again." A notable feature is the birds' extreme attachment to territory. Each pair, often many miles from the next, occupies a strictly defined section of river which is sometimes as little as $\frac{1}{4}$ to $\frac{1}{2}$ mile or even less and attachment to it is illustrated by two instances which in each case when I collected the ♂ of a pair the ♀ remained in exactly the same spot unmated for no less than nine months until observations ceased. Judging from specimens collected, skins examined, and lame finfoot seen, foot injury seems remarkably frequent, perhaps due to the attraction of the brilliant lobed feet to predatory fish. On one occasion a friend living on the banks of the Zambesi reported that while watching a ♀ with two downy young, one of the latter disappeared after a splash from under water.

The only note I have heard from these usually silent birds is a chattering by a ♀ when chased by a ♂, but in widely separated parts of its range Africans assert that it makes a booming noise, from which they give it the onomatopoeic name 'Mumbooma' on the Upper Zambesi.

Nest history is meagre and close study of it apparently non-existent. I have been unable to obtain information on the part played by the ♂ in incubation, but on the few occasions on which a ♀ with young has been observed the ♂ has not been with them.

The dates of five nests in recent years in Southern Rhodesia show wide variation, September, October, November, December and April. Sites in Southern Rhodesia have varied from ground level two feet above water level amongst rushes on an island to the upper surface of a large horizontal bough overhanging the water and five feet above it, the nest being placed in a space between large upright shoots from the bough, and similar to that of a moorhen (*Gallinula chloropus*). Adult males collected on the Upper Zambesi and Chobe rivers in January and February and one from the highlands of Kenya in April, all showing enormously swollen

testes, were certainly breeding. The dates suggest that breeding is influenced by the period of the peak of the flood in the particular river concerned rather than by the season of the year; indeed it if were otherwise than at or after the peak of the flood, nests in the situations referred to would be washed out by the rising water. There is considerable disparity in the size of adults and still more between the sexes, so much so that reports of a "finfoot with one young one" and of "three young finfoot" have on occasion proved on inspection to be a pair, and a female with two full fledged young, respectively. The clutch has been two eggs in every case but one, when three eggs were reported (but not seen by me).

The climbing ability of *Podica* has already been mentioned but there is one remarkable feature which seems not to have been published. In the first two specimens handled I failed to observe it myself though present, but it was brought so prominently to notice in the next that it could not escape observation. A large ♂ had climbed into a patch of papyrus when shot and on picking it from the water and laying it on its back at my feet the first digit on its wings stood out at a sharp angle. Reflex action was still operating and the dull red digits (in this case 18 mm. long) were still twitching independently of the motionless wings. Every specimen which I have handled in the flesh has shown these digits (varying from 12–18 mm.) and furnished with a well developed claw. These digits shrivel and dry up in a skin and are then difficult to find or examine.

The "spur on the carpal joint" is *not* similar to that on such birds as *Merganetta*, Spur-winged goose, etc., etc., but is a claw on the end of a more or less well developed *digit*, and capable of movement apart from the wing.

Subsequent experiences have continually fortified the impression that they are in fact functional and in use by the bird when climbing, as it does with half opened wings. But for some years I concluded that such "impressions" do not merit publication until I received from Colonel R. Meinertzhagen the following entry from his diary in Kenya dated 21.10.16:— "Blaney Percival has taught me a great deal about birds; today he pointed out . . . and the *vestigial claw of the finfoot* which he tells me is used for climbing much as the young hoatzin is known to do." Any disappointment that might have been experienced on finding that my observation was by no means original is more than compensated by the discovery that it is corroborated by so acute an observer as Percival more than 40 years ago.

The bird's pectinated claw on the middle toe is a feature which only Jackson (I. p. 309) appears to have recorded, but in some study specimens it is not immediately apparent and can be overlooked.

Podica and *Merganetta* developing as they have done in somewhat similar habitats in very different parts of the world provide an interesting example of "parallel development". Each has developed so striking a similarity in general morphology and habit that they bear more resemblance to each other than to any typical rail or duck.

The egg of *Podica* is very like those of other ralline birds—some heavily marked corncrake eggs are miniatures of those of *Podica*. A striking case of missed opportunity is the contribution of an informant, whose windows overlook a river much frequented by finfoot, that a study of its habits